

In the name of GOD

Preeclampsia and Eclampsia:  
Anesthetic Management

## ▶ **Preeclampsia :**

- ▶ New onset of hypertension & proteinuria in a previously normotensive woman after 20 weeks of gestation Returning to normal after 12 weeks of pregnancy.
- ▶ Edema not a part of diagnosis now.
- ▶ A retrospective diagnosis Eclampsia : new onset of seizures or unexplained coma during pregnancy or postpartum period in patients with pre-existing preeclampsia and without pre-existing neurological disorder.

▶ **Classification of Preeclampsia:**

- ▶ Mild PE
- ▶ Severe PE
- ▶ Blood pressure >140/90
- ▶ >160/110
- ▶ Proteinuria
- ▶ On 2 occasions, >4hrs apart
- ▶ >0.3gm/ 24 hrs Dip stic > 1+ >5gm/24 hrs
- ▶ Dipstic > 3+
- ▶ S. creatinine
- ▶ Normal elevated
- ▶ Pulmonary edema\_
- ▶ +oliguria
- ▶ IUGR
- ▶ Headache
- ▶ Visual disturbance
- ▶ Epigastric pain
- ▶ HELLP syndrome

▶ **Anti Hypertensive Drugs :**

▶ Methyldopa 250mg-1g tds or mg iv

▶ LabetalolOral-100mg tds till 800mg/dlv- 20 mg till desired effect (max. 220mg)

▶ Alpha + beta blocker

▶ HydralazineOral-100mg/d in 4 divided doses

▶ NifedipineOral: 5-10mg tds

▶ Nitroprussidemcg/kg/min

▶ **Recommended regime for MgSO<sub>4</sub> :**

▶ regime: 4-6 gm i.v over 15 min f/b infusion of 1-2 gm/hr

▶ **Side effects of MgSO<sub>4</sub> Maternal:**

▶ muscle weakness,

▶ pulmonary edema Neonatal:

▶ lethargy,

▶ hypotonia,

▶ respiratory depression

▶ **Anaesthetic management : Pre anaesthetic Evaluation:**

- ▶ 1. Airway
- ▶ 2. Haemodynamic monitoring : blood pressure, ECG, Pulse oxymetry
- ▶ 3. Fluid status: volume depleted patients higher risk of hypotension with induction of anaesthesia
- ▶ 4. BP control
- ▶ 5. Coagulation status
- ▶ **Invasive central blood pressure monitoring not routinely indicated Does not improve patient outcome**
- ▶ **Indications:**
- ▶ -oliguria patients-
- ▶ pulmonary edema-
- ▶ poorly controlled maternal blood pressure-
- ▶ massive hemorrhage-
- ▶ frequent arterial blood gas measurements
- ▶ Poor correlation between central venous and pulmonary capillary wedge pressure

▶ **Anesthetic Goals of Labor Analgesia in Preeclampsia :**

- ▶ To establish & maintain hemodynamic stability (control hypertension & avoid hypotension)
- ▶ To provide excellent labor analgesia
- ▶ To prevent complications of preeclampsia
  - ▶ Pulmonary edema
  - ▶ Eclampsia
  - ▶ Intracerebral hemorrhage
  - ▶ Renal failure
- ▶ To be able to rapidly provide anesthesia for Caesarean Section

- ▶ **Analgesia For Labor & delivery :**
- ▶ Neuraxial analgesia
- ▶ Lumbar Epidural-
- ▶ gradual onset of sympathetic blockade
- ▶ cardiovascular stability
- ▶ ↓ stress response
- ▶ maintains uteroplacental circulation
- ▶ avoids neonatal depression
- ▶ extended analgesia if cesarean required
- ▶ excellent post op analgesia



▶ **Neuraxial analgesia contd..**

Combined Spinal Epidural Analgesia

- ▶ -advantages of both
- ▶ Spinal - rapidity
- ▶ requires only small dose of LA
- ▶ ↑vasopressor response-better control of hypotension
- ▶ disadvantage: immediate verification of catheter function not possible

▶ **Anesthesia for Caesarean**

Epidural anesthesia

▶ Spinal anesthesia:

▶ advantage: rapidity

▶ requires only small dose of LA

▶ ↑vasopressor response-better control of hypotension

▶ Combined Spinal Epidural Anesthesia

▶ Indications:Patient preference

▶ Contraindications to general anesthesia

▶ Hemodynamically stable patient

▶ **Anesthesia for caesarean contd..**

General anesthesia:

▶ Indications- coagulopathy-sustained

▶ fetal bradycardia with reassuring maternal airway-

▶ severe ongoing maternal hemorrhage-

▶ contraindications to neuraxial technique

▶ **Hazards of General Anaesthesia:**

- ▶ 1. Difficult intubation- -smaller size tube -difficult airway cart ready
- ▶ 2. Exaggerated and prolonged hypertensive response to laryngoscopy and intubation: -risk of intracranial hemorrhage.
  - ▶ -labetalol(5-10 mg), local anesthetics,
  - ▶ esmolol( 2mg/kg ),
  - ▶ nitroglycerine(200mcg/ml),
  - ▶ nitroprusside 0.5mcg/kg/min,
  - ▶ remifentanyl (1mcg/kg) used before intubation and extubation
- ▶ 3- MgSO<sub>4</sub> with neuromuscular blockers, calcium channel blockers, uterotonics and uterine relaxants
- ▶ 4. Uterotonics avoided: risk of acute hypertension and eclampsia

- ▶ **General Anaesthesia administration in severe Preeclampsia :**
- ▶ Place a radial canula for continuous BP monitoring
- ▶ i.v line secured
- ▶ Arrange smaller size endotracheal tubes
- ▶ Antacids and perinorm given 30 minutes before 100% oxygen for 3 min.
- ▶ Labetalol 10 mg iv bolus and titrate to effect before induction, while monitoring fetal heart rate
- ▶ Rapid Sequence Induction
- ▶ Labetalol 5-10 mg before extubation
- ▶ Give opioids or BZDS after delivery.

